

# NCAM-L1 (H-94): sc-8305

## BACKGROUND

Neural cell adhesion molecules (NCAMs) are a family of closely related cell surface glycoproteins involved in cell to cell interactions during growth and thought to play an important role in embryogenesis and development. The expression of these molecules is widespread in all three germ layers during embryogenesis, but is more restrictive in adult tissues. NCAM expression is observed in a variety of human tumors including neuroblastomas, rhabdomyosarcomas, Wilms' tumor, Ewing's sarcoma and some primitive Myeloid malignancies. Multiple isoforms of NCAM have been reported in both mouse and human brain tissue. The NCAM-L1 adhesion molecule (CD171) plays an important role in axon guidance and cell migration in the nervous system. The presence of NCAM-L1 might contribute to tumor progression by promoting cell adhesion and migration and is known to be expressed by neurons, neuroblastomas and other malignant tumors. In humans, NCAMs arise from differential splicing and use of alternative polyadenylation sites of a single gene mapping to 11q23.

## REFERENCES

- Edelman, G.M. 1985. Cell adhesion and the molecular processes of morphogenesis. *Ann. Rev. Biochem.* 54: 135-169.
- Cunningham, B.A., et al. 1987. Neural cell adhesion molecule: structure, immunoglobulin-like domains, cell surface modulation and alternative RNA splicing. *Science* 236: 799-806.
- Lipinski, M., et al. 1987. Characterization of neural cell adhesion molecules (NCAM) expressed by Ewing and neuroblastoma cell lines. *Int. J. Cancer* 40: 81-86.
- Roth, J., et al. 1988. Presence of the long chain form of polysialic acid of the neural cell adhesion molecule in Wilms' tumor: identification of a cell adhesion molecule as an oncodevelopmental antigen and implications for tumor histogenesis. *Amer. J. Pathol.* 133: 227-240.
- Walsh, F.S. 1988. The NCAM gene is a complex transcriptional unit. *Neurochem. Int.* 12: 263-267.
- Lanier, L.L., et al. 1989. Identity of Leu-19 (CD56) leucocyte differentiation antigen and neural cell adhesion molecule. *J. Exp. Med.* 169: 2233-2238.
- Figarella-Branger, D.F., et al. 1990. Differential spectrum of expression of neural cell adhesion molecule isoforms and L1 adhesion molecules on neuroectodermal tumors. *Cancer Res.* 50: 6364-6370.

## CHROMOSOMAL LOCATION

Genetic locus: L1CAM (human) mapping to Xq28; L1cam (mouse) mapping to X A7.3.

## SOURCE

NCAM-L1 (H-94) is a rabbit polyclonal antibody raised against amino acids 668-761 of NCAM-L1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

NCAM-L1 (H-94) is recommended for detection of NCAM-L1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

NCAM-L1 (H-94) is also recommended for detection of NCAM-L1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for NCAM-L1 siRNA (h): sc-43172, NCAM-L1 siRNA (m): sc-43173, NCAM siRNA (r): sc-156119, NCAM-L1 shRNA Plasmid (h): sc-43172-SH, NCAM-L1 shRNA Plasmid (m): sc-43173-SH, NCAM shRNA Plasmid (r): sc-156119-SH, NCAM-L1 shRNA (h) Lentiviral Particles: sc-43172-V, NCAM-L1 shRNA (m) Lentiviral Particles: sc-43173-V and NCAM shRNA (r) Lentiviral Particles: sc-156119-V.

Molecular Weight of NCAM-L1 transmembrane isoforms: 140/180 kDa.

Molecular Weight of NCAM-L1 GPI-linked isoforms: 120/125 kDa.

Molecular Weight of NCAM-L1 soluble fragment: 110 kDa.

Positive Controls: F9 cell lysate: sc-2245, SK-N-MC cell lysate: sc-2237 or IMR-32 cell lysate: sc-2409.

## SELECT PRODUCT CITATIONS

- Kamiyama, H. 2004. Herpes simplex virus-induced, death receptor-dependent apoptosis and regression of transplanted human cancers. *Cancer Sci.* 95: 990-998.
- Tsoory, M., et al. 2008. Exposure to stressors during juvenility disrupts development-related alterations in the PSA-NCAM to NCAM expression ratio: potential relevance for mood and anxiety disorders. *Neuropsychopharmacology* 33: 378-393.
- Lai, P., et al. 2010. Lestaurtinib is cytotoxic to oxaliplatin-resistant transitional cell carcinoma cell line T24 *in vitro*. *Tzu Chi Med. J.* 22.
- Lappano, R., et al. 2011. The cholesterol metabolite 25-hydroxycholesterol activates estrogen receptor  $\alpha$ -mediated signaling in cancer cells and in cardiomyocytes. *PLoS ONE* 6: e16631.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.



Try **NCAM-L1 (D-5): sc-374046** or **NCAM-L1 (C-2): sc-514360**, our highly recommended monoclonal alternatives to NCAM-L1 (H-94). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **NCAM-L1 (D-5): sc-374046**.